

No Calculator

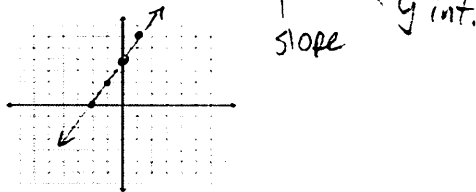
Find videos on each [skill] at [www.AlgebraNinja.com](http://www.AlgebraNinja.com) Name: KEY Hour: \_\_\_\_\_

Basic 20 ACT Prep Version 4

1. Solve  $2x = 7$  [26]

$x = 3.5$

2. Graph the equation  $y = 2x + 4$  [196]



3. Write and solve an equation for the sentence: Two less than three times a number is equivalent to 14. [219]

$3n - 2 = 14$   
 $3n = 16$   
 $n = \frac{16}{3}$

4. Find the slope given points (-7,2) & (1,3) [193]

$\frac{3-2}{1-(-7)} = \frac{1}{8}$

5. Simplify  $\frac{9}{2} \cdot \frac{5}{3}$  [42]

$\frac{3 \cdot 3}{2} \cdot \frac{5}{3} = \frac{15}{2} = 7.5$

6. Distribute  $-9(x-2)$  [8]

$-9x + 18$

7. Simplify (PEMDAS)  $2 + 3(1+1)^2 - 5$  [212]

$2 + 3(2)^2 - 5$   
 $2 + 3 \cdot 4 - 5$   
 $2 + 12 - 5$   
 $15 - 5 = 10$

8. Simplify  $-9 + 2$  [5]

$-7$

9. Solve  $\frac{1}{9}a = 10$  [78]

$a = 90$

10. Find the area of a triangle that has a base = 8 and height = 10 [147]



$A = \frac{1}{2} \cdot 6 \cdot 4$   
 $A = \frac{1}{2} \cdot 8 \cdot 10$   
 $A = 4 \cdot 10$   
 $A = 40 \text{ u}^2$

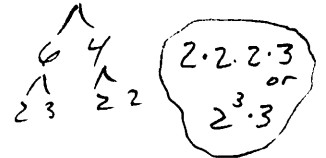
11. If  $f(x) = 1x - 1$ , evaluate at  $x = -1$  [110]

$(-1) - 1$   
 $-1 - 1 = -2$

12. Simplify  $4m^2mym^3m^3y$  [206]

$4 \cdot 2 \cdot 3 \cdot m \cdot m \cdot m \cdot m \cdot m^3 \cdot y \cdot y = 24m^7y^2$

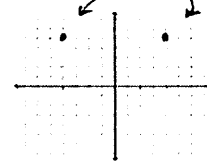
13. Use Prime factorization to factor 24 [252]



14. Simplify  $\frac{1}{2} \cdot \frac{6}{5}$  [50]

$\frac{1}{2} \cdot \frac{6}{5} = \frac{6}{10} = \frac{2 \cdot 3}{2 \cdot 5} = \frac{3}{5}$

15. Graph the points (-4,5) & (4,5) [251]



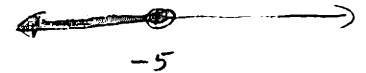
16. Find 3 points on  $f(x) = 9x - 2$  [185]

X	Y
0	-2
1	7
2	16
-1	-11

17. Solve  $x + 7x - 8 = 8$  [253]

$8x - 8 = 8$   
 $8x = 16$   
 $x = 2$

18. Graph on a number line: "x is less than or equal to -5." [224]



19. Simplify  $\frac{3}{4} + \frac{1}{2}$  [39]

$\frac{3 \cdot 2}{4 \cdot 2} + \frac{1 \cdot 2}{2 \cdot 2} = \frac{6}{8} + \frac{2}{8} = \frac{8}{8} = 1$

20. simplify  $-8 - |-5|$  [21]

$-8 - 5 = -13$